Program Research Project

THE FIGURE 8 MODEL OF INTERNATIONAL RELATIONS

BY

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THE FIGURE 8 MODEL OF INTERNATIONAL RELATIONS

by

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Topic Approved By
Colonel Pat Cassidy

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ABSTRACT

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The 20th century is described within a model of international relations using power scales to define the conditions of the international system. These power scales are circumscribed by political, informational, military, and economic definitions. Models improve our understanding of empirical phenomena, instilling discipline in our thinking. The Figure 8 Model is presented first in a Cartesian format and then in geometrical form. This model is an intuitive idea based on a particular reading of history, rather than a new international relations theory. The cyclical nature of the model has predictive utility for the strategic decision making process of the 21st Century.

THE FIGURE 8 MODEL OF INTERNATIONAL RELATIONS

The eternal flow of time goes through cyclical periods.

Bhagavata Purana, 9th century Hindu text

The perception and interpretation of cycles enable situational understanding of historical events. For example, the Hobbesian view is that peace is a period of rest from the previous war – and preparatory time for the next.[1] Nations and empires rise and fall. Economies expand and contract. Cycles in international relations exist and are also interrelated. Paul Kennedy recognized cyclic economic growth as the precursor to the cyclic rise of military dominance.[2] There are a variety of observable cycles throughout history. Their peaks and valleys present opportunities and risk.

The 20th century can be described within a model of international relations using cycles of power scales to define the conditions of the international system. These power scales are circumscribed by political, informational, military, and economic definitions. Models improve our understanding of empirical phenomena, instilling discipline about our thinking about world events.[3] In order to better understand the international relations system, the author developed the Figure 8 Model. This model is first described in a Cartesian framework and then presented as a geometric model that maintains the basic relational elements. In this model, the independent variables are the power scales (political, informational, military, and economic) and the dependent variable is the condition or state of the international system.

After showing that the model describes the 20th century, it is used to provide the analytical basis for predicting the immediate future international situation and for

suggesting a strategic posture. The value of anticipating the condition of the international system bears obvious benefits for strategists interested in placing their nation in a position of relative strategic advantage.

This model is not an event history model. Also known as hazard models and survival models, event history models are focused on the condition of individual elements within a system, the duration of transitional events, and the probabilities that transitional events will occur.[4] The model presented in this paper is focused on the international *system*, it is not concerned with the duration of time periods, and it assumes that transitional events are a *certainty*.

Basis in Theory and Concept

The theoretical or conceptual basis for constructing the Figure 8 Model is found among a variety of different logical arguments. These ideas provide the necessary assumptions in order to begin an analysis of the 20th century. While no theory or concept can explain the singular or the unexpected event, a good theory or concept enables reasonable inferences from historical regularities and repetitions.[5] A theory or concept is a depiction of the organization of a domain (independent variables) and of the connections among its parts (dependent variables). A theory or concept indicates that some factors are more important than others and specifies relations among them.[6] This model is an intuitive idea based on a particular reading of history, rather than a new international relations theory.[7]

The first foundational theory is game theory. The *sine qua non* of game theory is that players act rationally – choosing their behavior in an amoral, self-serving fashion. Game theory posits a world of rational and calculating actors seeking to satisfy their

own self-interest.[8] John Nash's Theorem is particularly relevant to the model. He states "any n-person, non-cooperative game for which each player has a finite number of pure strategies has at least one equilibrium set of strategies." Among other things, this means that at least one rational solution exists, and there may be any number of players.[9]

The second foundational theory is Emergence (or Chaos) Theory. This theory posits that when aggregates of individual elements attain an appropriate level of organizational complexity, that genuine novel properties emerge in these complex systems.[10] The international system is sufficiently complex that subtle historical patterns become apparent. A popular analogy of this phenomenon is a flock of geese flying south for the winter. While it is true that each bird can make the journey alone, they invariably cooperate – benefiting each other and themselves – and adopt the familiar 'V' formation or pattern. This paper presents the international system in a figure '8' pattern.

The third foundational theory is Stephen Jay Gould's Time's Cycle, Time's Arrow.[11] In this context, history consists of cycles advancing as they turn like a large disk moving along a railroad track – an arrow moving forward within a cycle of repetition. Each repetition must be different in order to reflect forward motion. This provides a narrative power to history and makes history intelligible.[12] This theory is the basis of the graphical model because it reflects the ebb and flow of history.

The final foundational concept is that power is sufficiently described in terms of political, informational, military, and economic elements. E.H. Carr recognizes the political, military, and economic elements,[13] while Robert Keohane adds informational as a significant element of the power system.[14] Societies use and are subjected to these

elements of power that alter or define their environment[15] and may be applied to a society of societies (i.e. the international system of systems).

Taken together, these theories enable us to express some important assumptions necessary to build the international relations model.

- Any number of states can play.
- Rational choices usually produce more than one condition or state.
- A recognizable pattern will emerge from history as a result of the complex interactions within the international system.
- In terms of history, the elements of power follow a cyclic pattern.
- The elements of power are political, informational, military, and economic.

Description of the Model

The model incorporates the cyclical nature of the political, informational, military, and economic scales of power. For the political scale, the aggregate conditions of the international system vary from pluralistic to amalgamated.[16] For the informational scale, the international system swings from isolated to interconnected. For the economic scale, the international system cycles between decline and growth. For the military scale, the system varies from parity to dominance. These scales are defined below and graphically presented in Figure 1.

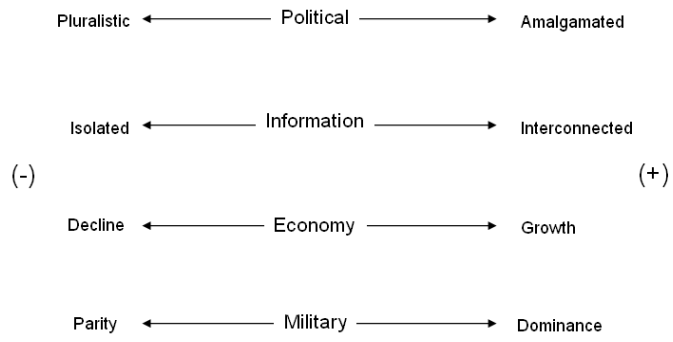

Figure 1. The Power Scales

The political cycle represents variations in the aggregate international system conditions. The political cycle peaks when the international system is amalgamated[17], indicating the presence of or tendency toward intensive cooperation with influential international institutions or international regimes. At the other extreme is when the system is pluralistic and sovereign nations individually pursue their own interests. The political scale then cycles between a condition of nations cooperatively pursuing common interests, and independent nations pursuing diverse or divergent interests.

The informational cycle is defined as the variation between the growing and declining levels of interconnectedness within the international system.[18] The informational cycle peaks when the international system rapidly becomes more interconnected. The combination of revolutionary technological advances, indicated by the unfettered international transfer of information, technology, labor, and capital reflect this peak condition. The cycle's nadir is observed when the rate of increasing

international interconnectedness stagnates or declines, resulting in greater numbers of isolated and dissimilar states.

The economic cycle represents the ebb and flow of the international economy. The scale peaks when, within some defined period of time, the international system exhibits widespread economic expansion and growth. Some indicators are the rise of capital investment, the broad improvement in standards of living, and the creation of wealth. The opposite is the contraction and decline of the international economy characterized by periods of worldwide recession or depression.

The military cycle represents the variation of military conditions found in the international system. The scale peaks when either one global or a few regional hegemons militarily dominate the international system. Global unipolar and bipolar conditions are examples of military dominance. The cycle is at its low point, parity, when nations, in the absence of hegemons, ally or cooperate in such a way as to balance against other powerful coalitions and alliances.

The cycles are plotted together on a Cartesian coordinate system (Figure 2) with time along the x-axis and the Power Scales against the y-axis. The cycles are intuitively fitted based on a broad reading of major historical patterns of the 20th century. Figure 2 shows that the cycles are not synchronous in nature. While some cycles are at their apex, others are at their nadir. While some cycles are rising others are falling. Certain historical events are also plotted on Figure 2 as a preview of the main body of this paper. Having shown how the power scales plot in relation to each other, the next step is to present the model in a simpler geometric model, which is described next.

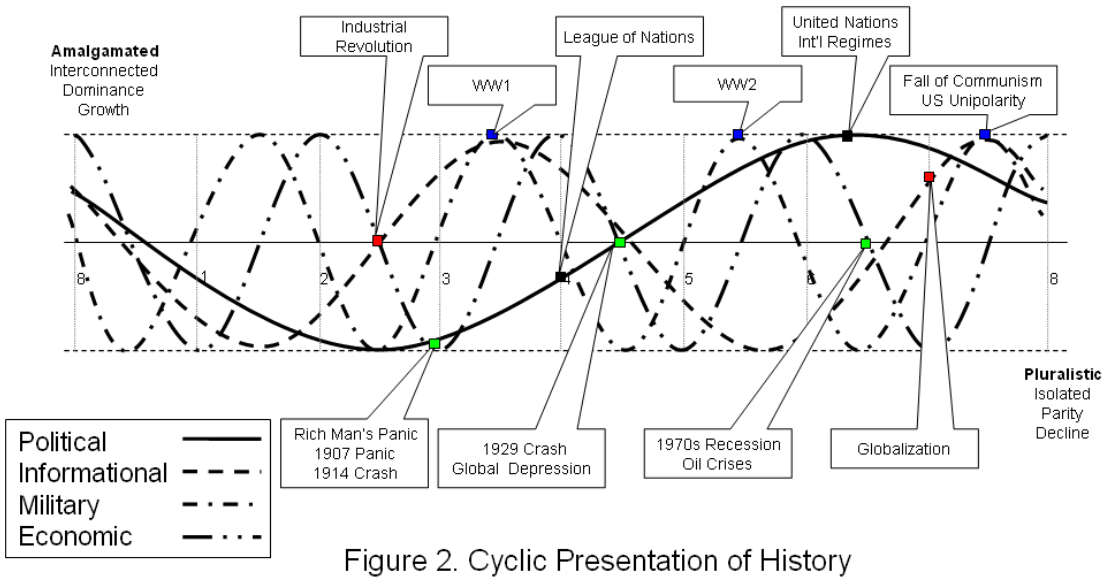

Figure 2. Cyclic Presentation of History

The Figure 8 Model (Figure 3) represents the international relations system and is analogous to a board game and is described in terms of the players, the game board, its objectives, and its characteristics. Each side of the figure is a varying span of time. The elements of power are characterized within each span – assigning a unique combination. For example, Span 1 is characterized by a pluralistic international society, informational isolation, the move from military parity to military dominance, and declining global economic conditions. Span 6 is characterized by an amalgamated international society, informational isolation, the move from military dominance to military parity, and rising economic conditions.

Actors play because they have no choice.[19] The way actors are socially identified is based on their perception of themselves and their comparative power relationship with other actors. This constitutes the structure of the international system.[20] The behavior of states is strongly affected by the constraints and incentives provided by the

international environment.[21] The structure is the international environment within which actors operate.

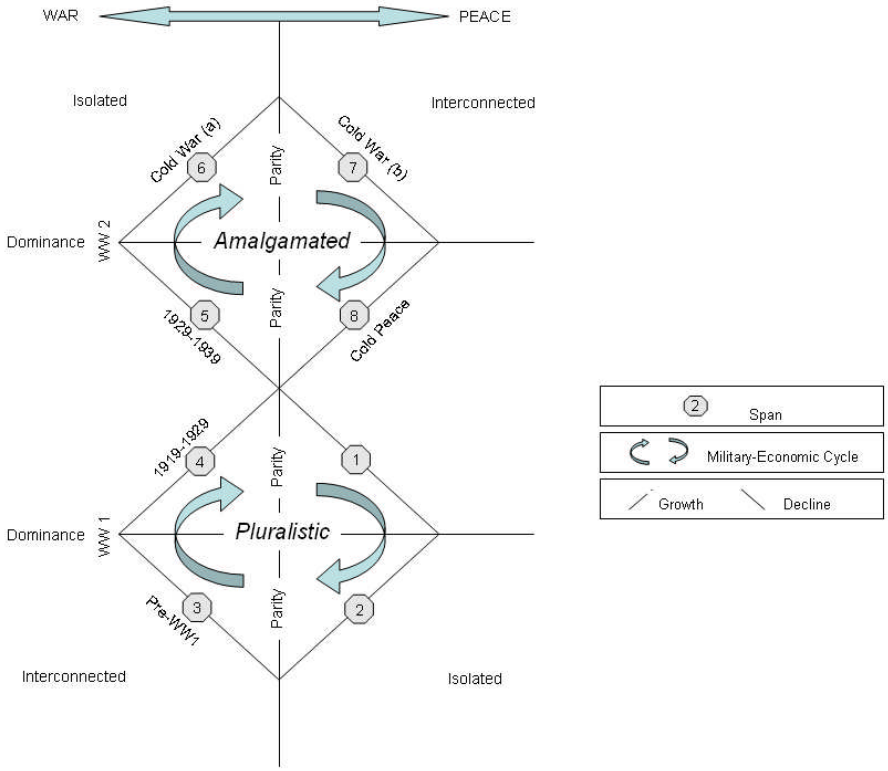

Figure 3. The Figure 8 Model

The objective of the game is to improve security, increase power, and remain sovereign. Each state acts to enhance its security by increasing its power with respect to its perceived competitors.[22] Sovereignty is defined as independence (supreme authority), equality (none can be subordinated to another's supreme authority), and juridical equivalence (meaning states have equal status under international law).[23] Although the ends are similar, the ways and means define each state's unique strategy and interests.

International society and its players generally move together from one span to the next when changes in the power scales (i.e. the international order) occur. Although none of the international relations theories has a strong ability to explain change,[24] some international relations analysts believe that crises are the motivation and means for change.[25] It may be that the great powers acting as agents of change or early movers *bring along* the international community. Regardless of the causes of change, it is without question that change is followed by a dramatic shift in power relations.[26] Powerful states are doomed to irrelevance by their refusal to adjust to changes in the international system, paving the way for other emerging hegemons,[27] and by the incremental and slow nature of change.[28]

Examination of the 20th Century

In terms of the Figure 8 Model, our examination of the 20th century begins with Span 3 and continues through Span 8. This model is based on an intuitive reading of the historical patterns of the 20th century. Later, this paper will examine the predictive utility of Span 1, which represents the immediate future.

The model defines Span 3 as a period characterized by political pluralism, informational interconnectedness, movement from military parity to hegemonic military dominance, and economic decline (Figure 4). The characterization applies to the entirety of the international system and is not defined by one or two actors' conditions. Span 3 encompasses the period of the 20th century prior to World War 1 (WW1).

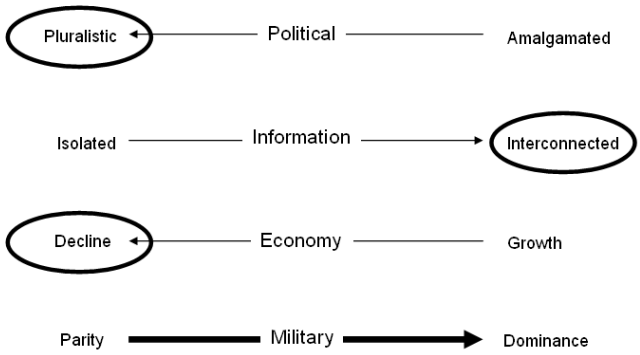

Figure 4. Summary of Span 3

The international community of 1900 was pluralistic because it was politically fragmented. Donald Puchala defines pluralism as a population that although integrated into security communities, it is politically fragmented into sovereign states.[29] The political fragmentation is clearly seen in the divisions between every single great power of the time. There was no overarching authority to prevent the threat or use of violence,[30] even though some historians mistakenly claim that the House of Saxe-Coburg was just that. It is true that Queen Victoria's progeny represented the thrones of Great Britain, Ireland, Austria-Hungary, Russia, Denmark, Spain, Portugal, Germany, Belgium, Greece, Romania, Bulgaria, Sweden, and Norway, and that family reunions had come to resemble an international summit.[31] The fact is that the House of Saxe-Coburg lacked the power to override the military and political professionals intent on going to war.[32] No

international organization or association of the time had any degree of authority or influence.

By 1900, the Industrial Revolution, corresponding to the informational rise and peak in Span 3 (Figure 2) provided the means to interconnect the world through railway systems, improved telegraphs, reliable postal systems, and the construction of inland waterways.[33] In fact, the world of 1901 was economically integrated as never before.[34] Modernization gave millions of people a new control over their environment, resulting in an even faster growing production of wealth.[35] But there were cracks in this apparent global miracle.

Many people were troubled by the uneven distribution of wealth, especially the social implications of unequal opportunities. Most people remained terribly poor, even in the so-called rich countries. And poverty seemed all the more severe when compared with the incredible power available to create new wealth.[36] Economic interdependence was marked by disparities in wealth between regions and countries.[37] In fact, the economic picture was already beginning to slow down in some countries by the first decade of this century.[38] The world system of Span 3 was characterized by uneven development, poverty, and exploitation within and between nations.[39]

The economic decline during Span 3 included the breakup of China, the collapse of the Ottoman Empire, the looming clash between Britain and Germany, Russian advances into the British Raj, and French expansionism in Africa.[40] The international economic system began the century with the recession of 1899-1900 and would see four more recessions associated with the Rich Man's Panic of 1902-1904, the Panic of 1907, the Recession of 1910-1912, and the collapse of the international exchange

system of 1913-1914.[41] The latter event marked the end of the optimistic growth associated with the Industrial Revolution and revealed the sensitivity of the global economic system.[42]

Finally, Span 3 saw the move from military parity to dominance. The powers of the time, of which none were hegemonic, were engaged in a balance of power. Germany, Austria-Hungary formed the Triple Alliance on the one side. The British-French *Entente Cordiale* was on the other side.[43] But the specter of military dominance was everywhere. Although Italy was the holder of the balance of power, she was reaching for great power status in the period of 1900-1908.[44] Germany came under the influence of a small group of offensive-minded generals.[45] And Britain was intent on preserving their imperial domination and maintaining their economic and political power.[46] This was the classic security dilemma, not because any power was truly dominant, instead there was the absence of trust among the states. As a state tried to increase its own security, even for defensive reasons, it represented a threat to other states forced to respond in kind causing a cyclical escalation of tensions along with arms production and mobilization.

The model defines Span 4 as a period characterized by political pluralism, informational interconnectedness, movement from military dominance to military parity, and economic growth (Figure 5). Span 4 encompasses the period of the 20th century from WW1 until the Stock Market Crash of 1929.

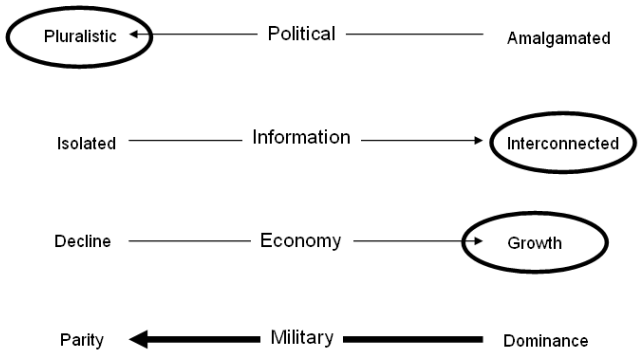

Figure 5. Summary of Span 4

The era of the League of Nations did not bring an end to international pluralism. It was the other way around. To be sure, the “winners” of WW1 sought to internationalize government by internationalizing power. But the international institutions set up by the Versailles Treaty were temporary in nature. Any real international government is impossible so long as power is organized nationally, such as in the Inter-Allied High Commission in the Rhineland.[47] The inability of member states to agree only resulted in the partitioning of joint responsibilities. Additionally, the three emerging powers, the United States, Germany, and Japan, were not members of the League system of collective security and were also divided as evidenced by their sympathies in the Italy-Ethiopian War.[48]

Nevertheless, the residual effects of the Industrial Revolution on the informational interconnectedness of Span 3 were obvious. Where industrialization stagnated in Britain

and France, it continued to increasingly affect the United States, Germany, Japan, China, and Russia. In fact, Wilson hoped that the informational interconnectedness would enable the spread of his principles of self-determination, nationality, and sovereignty.[49]

The move from military dominance to parity in Span 4 is seen in the desire to reestablish the balance of power through international governments and arms control treaties. But it could not be that simple. The balance of power model is multifaceted, and it relies on a number factors. Among these are the management of the relationships between a number of actors and the stability of the system as the system moves toward multipolarity.[50] Managing relationships was all the more difficult by the creation of some one hundred new states following WW1.[51]

Finally, Span 4 witnessed the economic growth required by the model. As industrial capacity returned to civilian production and consumerism increased, economic growth in the former belligerent states was undeniable. In fact, the Dow Jones Industrial Average (DJIA) steadily rose from 100 points in 1920 to 375 points in 1929. And that growth was everywhere – even in the Soviet Union. Soviet economic power grew and, when compared with the demise of the colonial empires, the planned economy gained grudging respect from the West.[52]

The model defines Span 5 as a period characterized by political amalgamation, informational isolation, movement from military parity to military dominance, and economic decline (Figure 6). Span 5 encompasses the period of the 20th century from the Stock Market Crash of 1929 until World War 2 (WW2).

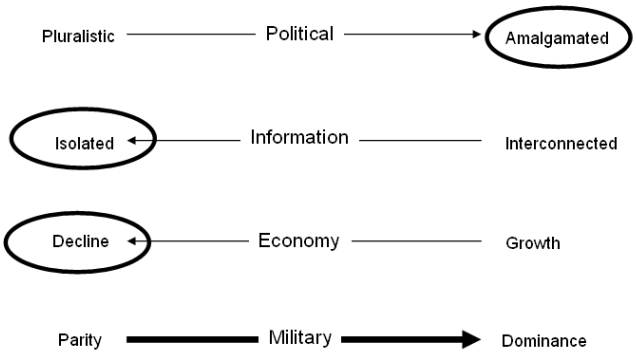

Figure 6. Summary of Span 5

The amalgamated international community has qualities associated with the establishment of influential organizations, associations, or institutions.[53] In the decade prior to WW2, associations such as the international oil regime prior to 1939,[54] the London Naval Treaties of 1930 and 1936, and the enduring desire to implement the Locarno Treaties indicated the subtle, but undeniable, intent to establish cooperative relations among all nations.[55]

Span 5 is characterized by informational isolation. Isolationism had swept the world system and even the British had begun to devalue interconnectedness. The use of loose monetary and fiscal policies to stimulate the international flow of labor and capital was abandoned – constraining the sharing of information, science, and technology. Distinct differences in development between states and regions were becoming apparent.[56] Industrialization was over.

The decade before WW2 saw the great powers frantically trying to maintain military parity. For example, France desperately wanted to sustain its bilateral treaties with Belgium, Poland, Czechoslovakia, Yugoslavia, and Italy.[57] Those countries no longer perceived the containment of an emerging Germany as beneficial. Britain sought to sustain the illusion of balance through appeasement. Italy, still the "balancer," recognized that it could influence the outcome of the struggle for power.[58] Germany's rise to dominance could only come at the cost of Europe's balance of power, and by the end of the 1930s Germany took advantage of its comparative military advantages derived from superior doctrine, training, and equipment. The same was true in Asia and the Pacific for Japan.

The Depression of Span 5 was an economic catastrophe unmatched before or since. With the exception of 1914, the stock market had never seen such volatility. The combined output of the seven biggest economies declined by nearly 20 percent between 1929 and 1932. The Depression was in part the consequence of a global financial crunch, with banking crises in some countries, currency crises in others, and both kinds of crises in a few unlucky ones.[59] In fact, the DJIA fell from 375 points in 1929 to 41 points in 1932. It recovered only slightly prior to WW2, reaching 150 points in 1939.[60]

The model defines Span 6 as a period characterized by political amalgamation, informational isolation, movement from military dominance to military parity, and economic growth (Figure 7). Span 6 encompasses the period of the 20th century from WW2 until 1971. The year of 1971 was a year of drastic change. The most powerful economy left the gold standard and unilaterally imposed a flexible monetary exchange

on the world. The Organization of the Petroleum Exporting Countries began to recognize the power it had over the industrialized world. And the Cold War was institutionalized by the achievement of nuclear parity.

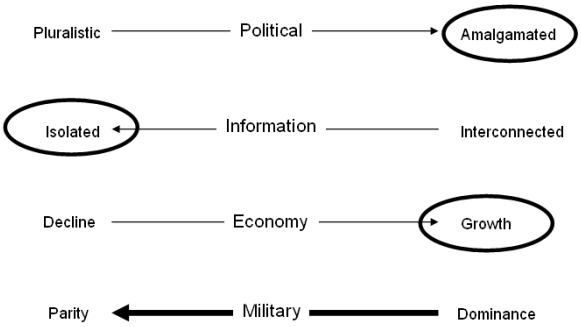

Figure 7. Summary of Span 6

The world system following WW2 was amalgamated in a loose global bipolar system – a militarily dominant condition.[61] For the West, the United States accepted the role of hegemon from 1945 to 1965 to counter Soviet hegemony; hegemonic cooperation was a reality.[62] For the East, the Soviet Union continued to be the ideological center for its newfound satellites. The United Nations (UN) contributed significantly to an amalgamated system. In the first decades following WW2, the UN was important because it provided an international forum for discussion. For the first time, sovereign states, especially the United States and the Soviet Union, would have to

justify their actions to the global community.[63] The development of international norms had begun through the formation of organizations, associations, and regimes.

International regimes were becoming a reality. These regimes dominated international relations. In the aftermath of WW2 there was the international monetary regime (Bretton Woods of 1944), the trade regime (Kennedy Round of 1967 and Tokyo Round of 1979), and the revived oil regime (Organization of the Petroleum Exporting Countries of 1973).[64] The North Atlantic Treaty Organization, the Warsaw Pact, and other regimes were established after WW2. Regimes are important amalgamating agents because they constitute centralized, quasi-governments, and because they can facilitate agreements and enforcement of agreements among its members.[65]

In the decades immediately following WW2, informational and scientific affairs of state were generally isolated from one another. Every country maintained individual informational controls.[66] The effect was informational isolation compounded by the lack of interaction between the capitalist West and the communist East. In the period following WW2, the United States and the Soviet Union were "uninvolved in one another's affairs."[67]

Span 6 witnessed the movement from military dominance to parity within the international system. From the 1950s to the 1980s, the Soviet Union not only maintained a strong army, but also achieved nuclear strategic parity with the United States. The Soviets developed an ocean-going navy, and extended its influence in various parts of the world.[68] The balance of military power structure expanded from the European theater to the worldwide balance of military power between the United States and the Soviet Union.[69]

Finally, Span 6 saw the greatest economic expansion in human history. Within a year of the end of WW2, most countries were back at their pre-war levels of output. There was a steady increase in manufacturing output, unprecedented levels of growth in exports, a remarkable degree of full employment, and historically high levels of disposable income and investment capital. In the two decades after WW2, world gross domestic product grew an average of 5.0 percent per year, while industrial production rose 5.9 percent per year. There was a broad determination to "build anew."[70] In fact, the DJIA rose from 200 points in 1950 to 1000 points in 1968.[71]

The economic growth characterization also applied to the communist East. The gains in the Soviet Union alone were imposing. Steel output soared from 12.3M tons in 1945 to 65.3M tons in 1960. Electricity production rose from 43.2M kWh to 292M kWh in the same period.[72] The economic growth of Span 6 was global despite the informational isolation of that period.

The model defines Span 7 as a period characterized by political amalgamation, informational interconnectedness, movement from military parity to military dominance, and economic decline (Figure 8). Span 7 generally encompasses the period of the 20th century from 1971 until the fall of communism in 1989.

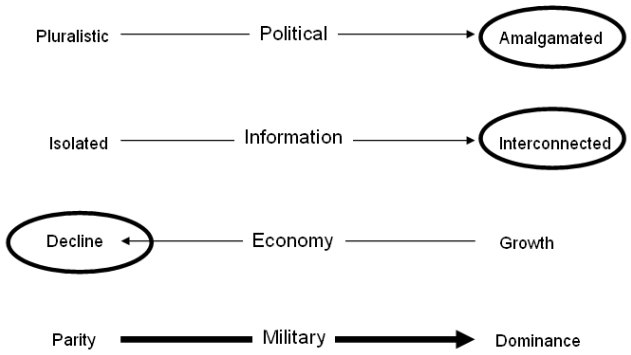

Figure 8. Summary of Span 7

The world system of Span 7 was politically amalgamated in a tight bipolar system created by the increasing intensity of the Cold War.[73] This period saw the realization of the cooperative potential of democracies in problem solving through effective institutions, and the economic unification in various regions of the world.[74] But such liberal cooperation was one-sided, restricted to the West. The political compliance in the communist bloc was based on coercion and lacked the creative solutions of a team of willing members.

Span 7 was characterized by informational interconnectedness. Globalization was a reality that touched virtually everyone everywhere in every aspect of life. The increased communications due to first satellites, then the Internet made information the new coin of the realm. The effect was the close integration of international markets, and the reduction of political, economic, and cultural autonomy.[75] The threat to sovereignty

was an expected bi-product of globalization because of the ability of individuals to access and control information independent of national borders.

The move from military parity to dominance was sudden. The rapid fall of communism left the United States as the sole dominant military power in the world.[76] The collapse of the Soviet Union made the United States a military power and technological giant without peer – a condition expected to continue until Span 8 begins. Taking the United States' economic might into consideration indicates the singular importance of the United States to the model at this stage.

Finally, in the early 1970s, the deteriorating position of the dollar became the central issue in the world economy.[77] Most economists expected the United States' move to flexible exchange rates would enable each nation to pursue self-promoting economic policies. The international political system was unprepared to manage the complexities of floating exchange rates and the nascent manipulation of oil supplies by oil producing countries. Debt problems and rising oil prices led to financial crises in the late 1970s and the early 1980s because less developed countries borrowed heavily from commercial banks, making them extremely vulnerable to the global recession of the late 1970s.[78] Another indicator was the minimal growth of the DJIA from 800 points in 1970 to just over 1000 points in 1984.[79] Economic performance was a far cry from the growth that immediately followed WW2.

The model defines Span 8 as a period characterized by political amalgamation, informational interconnectedness, movement from military dominance to military parity, and economic expansion (Figure 9). Span 8 encompasses the period from 1989 to the present day.

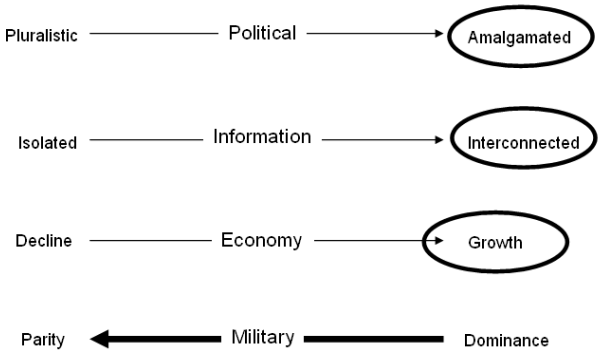

Figure 9. Summary of Span 8

Span 8 is the end of international political amalgamation. It is a period of transition from hegemonic cooperation and international regimes, to one of prevailing discord and non-hegemonic cooperation.[80] If regimes are to be effective, then its rules must be enforced. Due to the central importance of distribution and autonomy issues, the compliance problem is not going to be resolved, and regime rules are unlikely to be enforced without strong international leadership.[81] It is unlikely that the United States will reassume the dominant position that it had following WW2, or that any country will come to occupy such a position.[82]

Globalization continues through Span 8 without any sign of retreat. Communications and computation advances seem to be endless, and make information readily available to more people everyday. Thomas Friedman articulates how

informational interconnectedness made the world flat. He wrote, “This moment in the mid- to late 1990s was when people first started to feel that something was changing in a big way. There was suddenly available a platform for collaboration that all kinds of people from around the globe could now plug and play, compete and connect on – in order to share work, exchange knowledge, start companies, and invent and sell goods and services.”[83] Informational interconnectedness has not peaked in Span 8 because the information revolution has yet to affect most of the world.

The movement from international military dominance to military parity characterizes Span 8. As the power of the United States continues to decline in relative terms,[84] China is leading the global movement from a unipolar international system to a multipolar one.[85] The pattern is one of rising regional hegemons removing any competitors within their spheres of influence.[86] Military parity will be attained by rising hegemons through securing resources and in the ability to develop and produce the military technology.[87] Carolyn Pumphrey observes that a world of military parity is not necessarily one of increased danger,[88] but it deserves a close eye.

The characteristic economic growth described by the model is mostly clearly seen in the rising economies of China and India. In fact, America’s bull market continues uninterrupted, so far. The DJIA rose from 2800 points in 1990 to 12000 at the end of 1999.[89] Today it stands around 13000. Coupled with the information revolution, economic growth has the potential to touch every corner of the world and every aspect of society.

Predictive Utility of The Model

Having directly applied six spans of the model to the 20th century, it remains to use the model to predict the immediate future strategic conditions of the 21st century, specifically Span 1. This is important as strategic leaders seek to position the United States for survival, if not supremacy, in a volatile, uncertain, complex, and ambiguous system of systems. The model is explicit and adds predictive utility to a proactive and anticipatory strategy formulation process.

The 21st century begins with the conclusion of Span 8 and the start of Span 1. We are then in a state of transition between Span 8 and Span 1. Span 1 (Figure 10) will be marked by international pluralism and the declining influence of international and regional organizations. Span 1 will be noted for international isolationism possibly capacitated by the demise of the Internet. Emerging regional hegemons, such as China and Russia, achieving regional military parity with the United States will challenge America's global military dominance in Span 1. Finally, Span 1 will be dominated by global economic contraction. Knowing that this pattern will emerge in Span 1 gives some insight into changing international conditions and informs the national strategy formulation process to address this change.

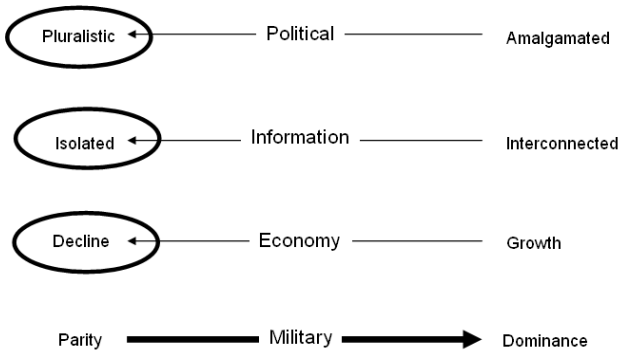

Figure 10. Summary of Span 1

At the heart of the strategy formulation process is the strategic appraisal of the global environment. Equipped with the expectation that the international system in Span 1 will experience unavoidable political fragmentation and economic decline, the prudent strategist may consider a defensive posture founded on limited objectives. Instead of promoting democracy, the strategist may desire to preserve democracy only where it exists. Instead of generating international trade through foreign aid, the strategist may prefer to promote a self-sustaining or self-reliant national economy. Given the expected military challenges from rising regional hegemons in theaters closer to their homelands than to ours, the American strategist may seek to engender a sense of military cooperation rather than confrontation in Span 1.

These prognostic recommendations are rife with assumptions about America's proper place in the international system.[90] The model enables a strategic understanding

of the system's relationship with respect to time, but does not identify root causes and effects. The model suggests sequential periods of system stability and instability, but does not recommend how risk and friction should be mitigated. Strategy formulation therefore remains more of an art than a science, and the model is simply another tool available to strategic leaders, practitioners, and theorists.

This paper first described the 20th century using a model of international relations constructed from power scales to define the conditions of the international system. The historical cycles were first described within a Cartesian framework, and then they were presented as a geometric model that maintained the relationship of the elements of power. The Figure 8 Model defines spans of time in terms of system conditions and historical observations supporting the model. Lastly, the predictive utility of the model was applied to the imminent future of this century.

Endnotes

[1] Hedley Bull, "The Idea of International Society," (1977) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 37.

[2] Paul M. Kennedy, The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000, (New York: Random House, 1987), xvi.

[3] Robert Powell, "The Modeling Enterprise and Security Studies," Rational Choice and Security Studies: Stephen Walt and His Critics, eds. Michael Brown, Owen Cote, Sean Lynn-Jones, and Steven Miller (Cambridge, MA: The MIT Press, 1999), 86.

[4] Jeroen K. Vermunt and Guy Moors, "Event History Analysis," (2005) available from <spitswww.uvt.nl/~vermunt/esbs2005b.pdf>; Internet; accessed 21 December 2007, p.1. Event history analysis is better described as regression analysis. Janet M. Box-Steffensmeier, Dan Reiter, and Christopher Zorn, "Nonproportional Hazards and Event History Analysis in International Relations," (2003) Journal of Conflict Resolution, 47(1) addresses the event history analysis model in similar terms of system conditions and how independent variables (covariates) may better model event duration, timing, and probability. Again, the focus is not on the system as it is in the model presented in this paper.

[5] Kenneth N. Waltz, "The Origins of War in Neorealist Theory," (1988) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 63.

[6] Ibid.

[7] Robert Gilpin, Global Political Economy: Understanding the International Economic Order, (Princeton, NJ: Princeton University Press, 2001), 94. Gilpin offers the defense against criticisms that his theory is not an adequately formulated *scientific* theory.

[8] John L. Casti, 5 Golden Rules: Great Theories of 20th Century Mathematics and Why They Matter, (New York: MJF Books, 1996), 41.

[9] Ibid., 25.

[10] Philip Clayton, "Conceptual Foundations of Emergence Theory;" available from <www.oup.co.uk/pdf/0-19-928714-7.pdf>; Internet; accessed 20 July 2007, p.2.

[11] Stephen Jay Gould, Time's Arrow, Time's Cycle: Myth and Metaphor in the Discovery of Geological Time (Cambridge, MA: Harvard Univ. Press, 1987).

[12] David Jablonsky, "Time's Arrow, Time's Cycle: Metaphors for a Period of Transition," Parameters, (Carlisle, PA: US Army War College, Winter 1997-1998), 4. Also, Robert Gilpin, "The Theory of Hegemonic War," Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 263. Gilpin believes that Thucydides wrote about the Peloponnesian War assuming that the behavior and phenomena that he observed would repeat themselves throughout history.

[13] Edward H. Carr, The Twenty Years Crisis 1919-1939, 2nd ed. (New York: Perennial, 1946), 110-134.

[14] Robert O. Keohane, After Hegemony: Cooperation and Discord in the World Political Economy, 2nd ed. (Princeton, NJ: Princeton University Press, 2005), 245.

[15] David Jablonsky, "National Power," US Army War College Guide to National Security Policy and Strategy, 2nd ed., ed. J. Boone Bartholomees, Jr., (Carlisle, PA: US Army War College, 2006), 128.

[16] Donald Puchala, "The Integration Theorists and the Study of International Relations," (1988) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 338. According to Puchala, international communities are either amalgamated or pluralistic. If amalgamated, the community would be a federated community with institutions regulating the relations of the population.

[17] In international relations, this is commonly referred to as *interconnected*.

[18] This should not be confused with *interdependence*, which suggests an economic condition. Kenneth Waltz, "Structural Causes and Economic Effects," (1979) Conflict After the Cold War: Arguments on Causes of War and Peace, 3rd ed. ed. Richard K. Betts (New York: Pearson Longman, 2007), 309, defines interdependence as a condition in which anything that happens anywhere in the world may affect somebody, or everybody, elsewhere. Waltz' definition of interdependence connotes a condition of inequality between states that negates system analysis of a "world of nations." Interconnectedness suggests a high level of sharing, exchange, and reciprocity.

[19] John Herz, "The Security Dilemma in the Atomic Age," (1959) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 270. Herz discusses the analogous predicament of potential adversaries locked in a room, each armed with pistols. Each wishes they both could discard their weapons out a window, but each realizes that there is no logical way of going about it.

[20] Ibid.

[21] Keohane, 26.

[22] Stephen M. Walt, "International Relations: One World, Many Theories," Foreign Policy, (Spring 1998), 31.

[23] Hans J. Morgenthau, Politics Among Nations: The Struggle for Power and Peace, 7th ed. (New York: McGraw-Hill, 2006), 319-321.

[24] Jack Snyder, "One World, Rival Theories," (2004) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 410-411.

[25] Ole R. Holsti, "Models of International Relations and Foreign Policy," (1995) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 162.

[26] Keohane, 204. Gilpin, Hegemonic War, 265. Gilpin doesn't stray far from his roots in international political economy in that change involves a transformation of the hierarchy of states in the system and the patterns of relations dependent upon that hierarchy.

[27] Keohane, 196.

[28] Wendt, 340.

[29] Donald J. Puchala, 338.

[30] Joseph M. Grieco, "Anarchy and the Limits of Cooperation," (1988) Classic Readings and Contemporary Debates in International Relations, 3rd ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 384.

[31] Niall Ferguson, The War of the World: Twentieth-Century Conflict and the Descent of the West, (New York: The Penguin Press, 2006), 95-96.

[32] Ibid., 100.

[33] Paul M. Kennedy, 221.

[34] Ferguson, 40.

[35] J.M. Roberts, History of the World, 6th ed. (London: Penguin Books, 1992), 832.

[36] Ibid.

[37] Ferguson, 40.

[38] Roberts, 831.

[39] Holsti, 158.

[40] Kennedy, 227.

[41] Dow Jones & Company, "Dow Jones Averages," Dow Jones Indexes 2007; available from < http://djindexes.com/mdsidx/index.cfm?event=showAverages>; Internet; accessed 10 August 2007.

[42] Ferguson, 84-85.

[43] Brian R. Sullivan, "The Strategy of the Decisive Weight," The Making of Strategy: Rulers, States, and War, eds. Williamson Murray, Alvin Bernstein, MacGregor Knox (Cambridge Univ. Press, 1994), 319.

[44] Ibid., 315.

[45] Holger H. Herwig, "Strategic Uncertainties of a Nation-State: Prussia-Germany, 1871-1918," The Making of Strategy: Rulers, States, and War, eds. Williamson Murray, Alvin Bernstein, MacGregor Knox (Cambridge Univ. Press, 1994), 251.

[46] Williamson Murray, "The Collapse of Empire: British Strategy, 1919-1945," The Making of Strategy: Rulers, States, and War, eds. Williamson Murray, Alvin Bernstein, MacGregor Knox (Cambridge Univ. Press, 1994), 400.

[47] Carr, 107-108.

[48] Morgenthau, 440.

[49] Roberts, 868.

[50] Karl W. Deutsch and J. David Singer, "Multipolar Power Systems and International Stability," (1964) Classic Readings and Contemporary Debates in International Relations, 3rd

ed., eds. Phil Williams, Donald Goldstein, Jay Shafritz (New York: Thomson Wadsworth, 2006), 106.

[51] Holsti, 148.

[52] Ferguson, 197.

[53] Puchala, 337.

[54] Keohane, 60.

[55] Holsti, 156. Alexander Wendt suggested that states will more often choose cooperative policies for self-serving reasons than for any altruistic reasons.

[56] Ferguson, 196.

[57] Robert A. Doughty, "The Illusion of Security: France, 1919-1940," The Making of Strategy: Rulers, States, and War, eds. Williamson Murray, Alvin Bernstein, MacGregor Knox (Cambridge Univ. Press, 1994), 476.

[58] Morgenthau, 205.

[59] Ferguson, 192.

[60] Dow Jones & Company, 2007.

[61] Holsti, 150.

[62] Keohane, 244.

[63] Roberts, 933.

[64] Keohane, 186-191.

[65] Ibid., 244.

[66] Gilpin, 234.

[67] Waltz, 69.

[68] Kennedy, 429.

[69] Morgenthau, 212.

[70] Kennedy, 420-421.

[71] Dow Jones & Company.

[72] Kennedy, 429.

[73] Holsti, 150.

[74] Snyder, 403-404.

[75] Gilpin, 81.

[76] Constantine Menges, China: The Gathering Threat, (Nashville, TN: Nelson Current, 2005), 183-191; Ferguson, 626-638; and Niall Ferguson, Colossus: The Rise and Fall of the American Empire, (New York: Penguin Press, 2004), 27.

[77] Gilpin, 239.

[78] Gilpin, 239-263.

[79] Dow Jones & Company, 2007.

[80] Keohane, 246.

[81] Gilpin, 93.

[82] Keohane, 244.

[83] Thomas L. Friedman, The World is Flat: A Brief History of the Twenty-first Century, 2nd ed. (New York: Farrar, Straus, and Giroux, 2006), 92.

[84] Ferguson, Colossus, 30.

[85] Zbigniew Brzenski and John Mearsheimer, "Clash of the Titans," Foreign Policy, 146 (January/February 2005), 46-51.

[86] Ibid.

[87] Harry Harding, "China Goes Global," The National Interest (September/October 2006).

[88] Carolyn Pumphrey, ed., The Rise of China in Asia: Security Implications (Carlisle, PA: Strategic Studies Institute, 2002), 3.

[89] Dow Jones & Company.

[90] For an example of such a debate, see the Brookings Institution discussion about the National Security Strategy of 2006, President Bush's National Security Strategy: Is the US meeting its global challenges? (Washington, DC, March 21, 2006). Should there be an emphasis on democracy promotion? To what extent should international institutions constrain national freedom of action? How important is it to have a peerless military? Martin Indyk suggests that only historians 50 years from now will know the "correctness of the strategy."